

Relationships between benthic infaunal community structure and dissolved oxygen levels in bottom waters of Hood Canal

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Dissolved oxygen levels in bottom waters of Hood Canal have been recorded both recently and historically at low levels that adversely affect the condition of resident pelagic and demersal biota. It is well documented that low dissolved oxygen levels can adversely affect infaunal invertebrate populations as well. Although the condition of the Hood Canal benthos has been assessed periodically for over a decade, synoptic dissolved oxygen measurements from bottom waters are lacking. In June 2004, as part of the Puget Sound Ambient Monitoring Program, the Washington State Department of Ecology's Marine Sediment Monitoring Team sampled sediments from 30 stations in Hood Canal to measure physical characteristics, the extent of chemical contamination and toxicity, and infaunal community structure. Dissolved oxygen measures were simultaneously collected in near bottom waters at each station. Results indicated that sediment contamination and toxicity were low throughout the canal, while measures of total abundance, species richness, and dissolved oxygen decreased in the central and southern stations. These data are being analyzed, along with sets of historical sediment and water column data, to elucidate relationships that may exist between varying dissolved oxygen levels and benthic community structure, in an environment relatively free of severe chemical and toxicological impact.